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Patent Application No. 10/002,998

IN THE CLAIMS:

Please amend claims 1, 6, 9, 12 and 14-16 and add new claims 25-27 as follows:

1. (currently amended) A method implemented by at least one computer for encoding knowledge, comprising the steps of:
  - forming a network having nodes that represent semantic concepts;
  - associating one or more words with one or more of the nodes;
  - 5 associating multimedia content with one or more of the nodes; and
  - representing relationships between the nodes as arcs between associated words and arcs between associated multimedia content.
2. (original) The method of Claim 1, further comprising:
  - creating lexical relations between semantic concepts on the basis of one or more of: word forms and word meaning of associated words.
3. (original) The method of Claim 1, wherein relationships between semantic concepts and between associated content are based at least in part on audio and/or visual feature descriptor values.
4. (original) The method of Claim 3, further comprising:
  - extracting feature descriptors from multimedia content; and
  - computing similarity measures between descriptor values.
5. (original) The method of Claim 1, wherein the media network knowledge is represented using the ISO MPEG-7 Description Definition Language.
6. (currently amended) A method implemented by at least one computer for searching an encoded media network knowledge representation that comprises a network having nodes that represent semantic concepts, one or more words and multimedia associated with
  - 5 the one or more nodes, and wherein relationships between the nodes are represented as arcs between associated words and arcs between associated multimedia content, the method comprising the steps of:
    - accepting a query;
    - matching the query to the words and multimedia content related

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10 to the concepts encoded in the media network knowledge  
representation;  
navigating the relationship arcs of the concepts associated  
with matching words and multimedia content; and  
retrieving related concepts, words, and multimedia content from  
15 the matched nodes or related nodes.

7. (original) The method of Claim 6, further comprising:  
forming a query comprised of words; and  
matching the query words to the words encoded in the media  
network knowledge representation.

8. (original) The method of Claim 6, further comprising:  
forming a query comprised of multimedia content; and  
matching the query content to the multimedia content encoded in  
the media network knowledge representation.

9. (original) The method of Claim 6, further comprising:  
forming a query comprised of audio and/or visual feature descriptor  
values, wherein the feature descriptor values denote proximity to the  
semantic concepts of the nodes; and

5 matching the query descriptor values to the descriptor values of the  
content encoded in the media network knowledge representation.

10. (original) A method for browsing an encoded media network  
knowledge representation that comprises a network having nodes that  
represent semantic concepts, one or more words and multimedia associated  
with the one or more nodes, and wherein relationships between the nodes  
5 are represented as arcs between associated words and arcs between  
associated multimedia content, the method comprising the steps of:

displaying one or more concept nodes and associated words and/or  
multimedia content; and

10 providing means for allowing a user to select related concepts for  
viewing.

11. (original) The method of Claim 10, further comprising:  
providing means for allowing the user to select concept nodes and  
associated words and/or multimedia content for display on the basis of

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specific types or values of relations to a particular concept node or  
5 associated word or multimedia content.

12. (currently amended) A method implemented by at least one  
computer for summarizing an encoded media network knowledge representation  
that comprises a network having nodes that represent semantic concepts,  
one or more words and multimedia associated with the one or more nodes,  
5 and wherein relationships between the nodes are represented as arcs  
between associated words and arcs between associated multimedia content,  
the method comprising the steps of:

extracting a subset of nodes, relations, and words and/or multimedia  
content from an encoded media network knowledge representation.

13. (original) The method of Claim 12, further comprising:  
consolidating together concept nodes, relations, words, and/or  
multimedia content.

14. (currently amended) A method implemented by at least one  
computer for updating an encoded media network knowledge representation  
that comprises a network having nodes that represent semantic concepts,  
one or more words and multimedia associated with the one or more nodes,  
5 and wherein relationships between the nodes are represented as arcs  
between associated words and arcs between associated multimedia content,  
the method comprising the steps of:

adding, deleting or modifying concepts, relations, or associated  
words, multimedia content, or descriptors in the encoded media network  
10 knowledge representation.

15. (currently amended) A method implemented by at least one  
computer for querying a multimedia information repository associated with  
an encoded media network knowledge representation that comprises an  
encoded network having nodes that represent semantic concepts, one or more  
5 words and multimedia associated with the one or more nodes, and wherein  
relationships between the nodes are represented as arcs between associated  
words and arcs between associated multimedia content, the method  
comprising the steps of:

searching the encoded media network knowledge representation;

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10        retrieving words, content, and/or descriptors from the media network  
knowledge representation; and  
         searching the information repository using the retrieved words,  
content, and/or descriptors.

         16. (currently amended) A method implemented by at least one  
computer for personalizing multimedia information in a system comprising  
an encoded media network knowledge representation that includes an encoded  
network having nodes that represent semantic concepts, one or more words  
5        and multimedia associated with the one or more nodes, and wherein  
relationships between the nodes are represented as arcs between associated  
words and arcs between associated multimedia content, the method  
comprising the steps of:  
         describing the multimedia information using words or descriptors;  
10        describing user preferences using words, multimedia content, and/or  
descriptors;  
         matching the user preferences with the descriptions of the  
multimedia information; and extracting, retrieving, and/or summarizing the  
matched multimedia items.

         17. (original)     A system for encoding knowledge, comprising:  
         means for forming a network having logical nodes that represent  
semantic concepts;  
         means for associating one or more words with one or more of the  
5        nodes;  
         means for associating multimedia content with one or more of the  
nodes; and  
         means for representing relationships between the nodes as arcs  
between associated words and arcs between associated multimedia content.

         18. (original)     The system of claim 17, further comprising means  
for searching the knowledge encoded in the network.

         19. (original)     The system of claim 17, further comprising means  
for browsing the knowledge encoded in the network.

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20. (original) The system of claim 17, further comprising means for updating the knowledge encoded in the network.

21. (original) The system of claim 17, further comprising means for summarizing the knowledge encoded in the network.

22. (original) The system of claim 17, further comprising means for querying a multimedia information repository associated with the knowledge encoded in the network.

23. (original) The system of claim 17, further comprising means for personalizing the knowledge encoded in the network for a particular user.

24. (original) A computer program product in a computer readable medium for use for encoding knowledge, the computer program product comprising:

5 first instructions for forming a network having logical nodes that represent semantic concepts;

second instructions for associating one or more words with one or more of the nodes;

third instructions for associating multimedia content with one or more of the nodes; and

10 fourth instructions for representing relationships between the nodes as arcs between associated words and arcs between associated multimedia content.

25. (new) The method of claim 1, wherein the relationships between the nodes are based, at least in part, on the features of the multimedia content.

26. (new) The method of claim 1, wherein the relationships between the nodes denote similarity of semantic concepts.

27. (new) The method of claim 1, further comprising extracting descriptors from the multimedia content, the descriptors denoting semantic concepts.